FIG.1

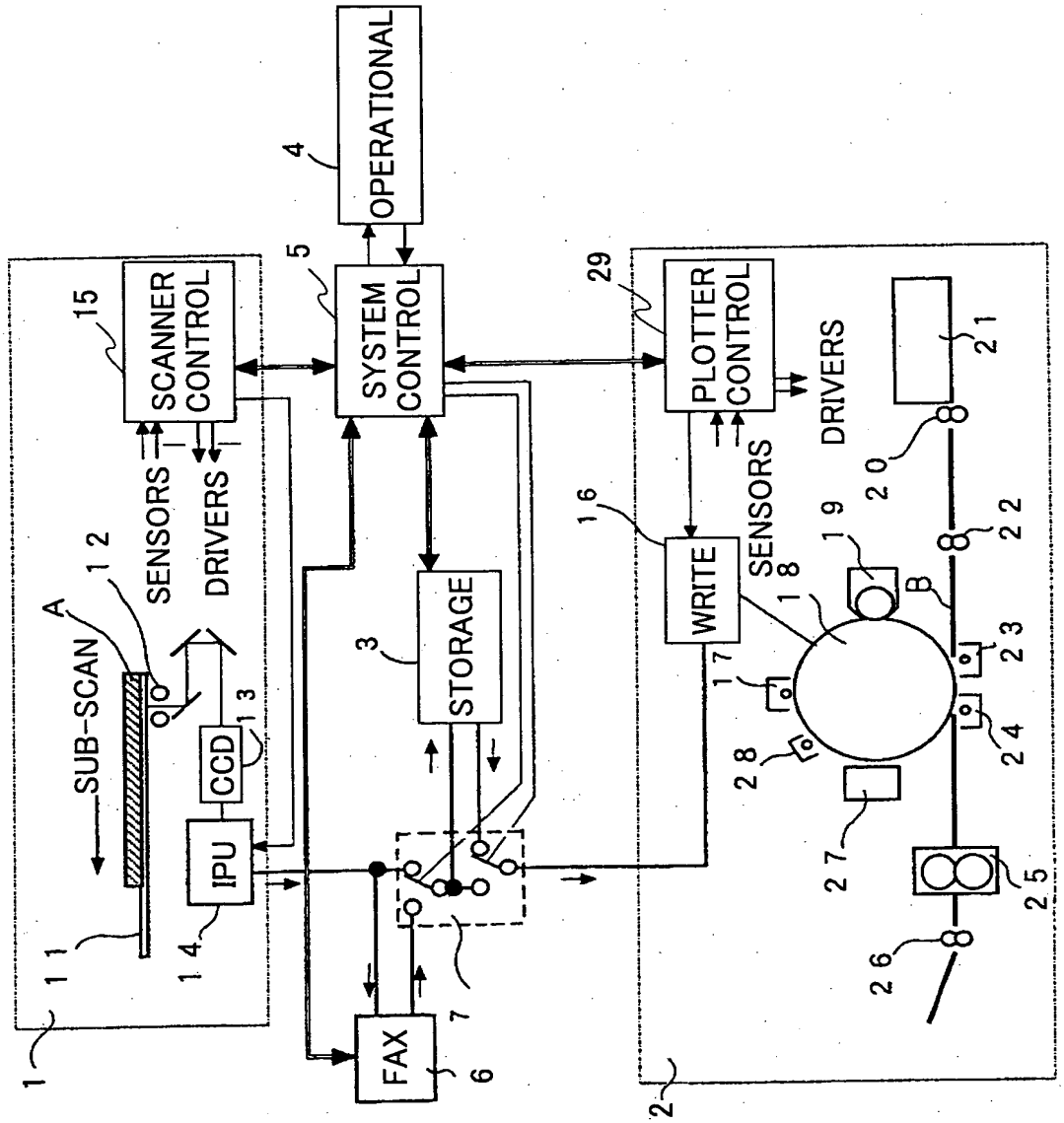
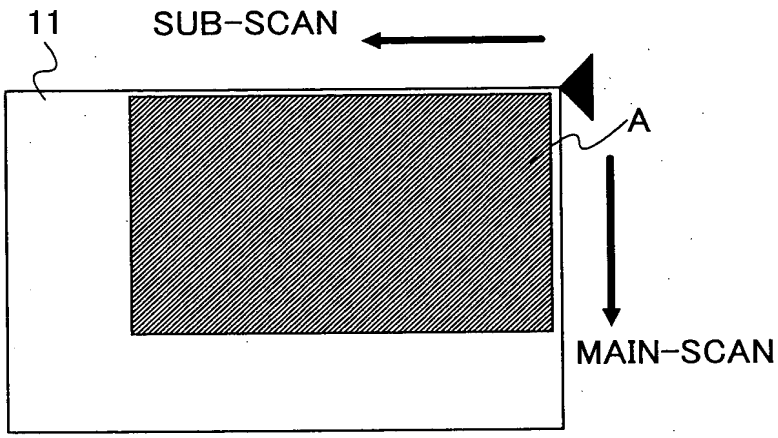

OPERATIONAL
SCANNER CONTROL
SYSTEM CONTROL
PLOTTER CONTROL
SENSORS
DRIVERS
SUB-SCAN
CCD
IPU
STORAGE
WRITE
FAX
1
2
3
4
5
6
7
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
A
B

FIG.2



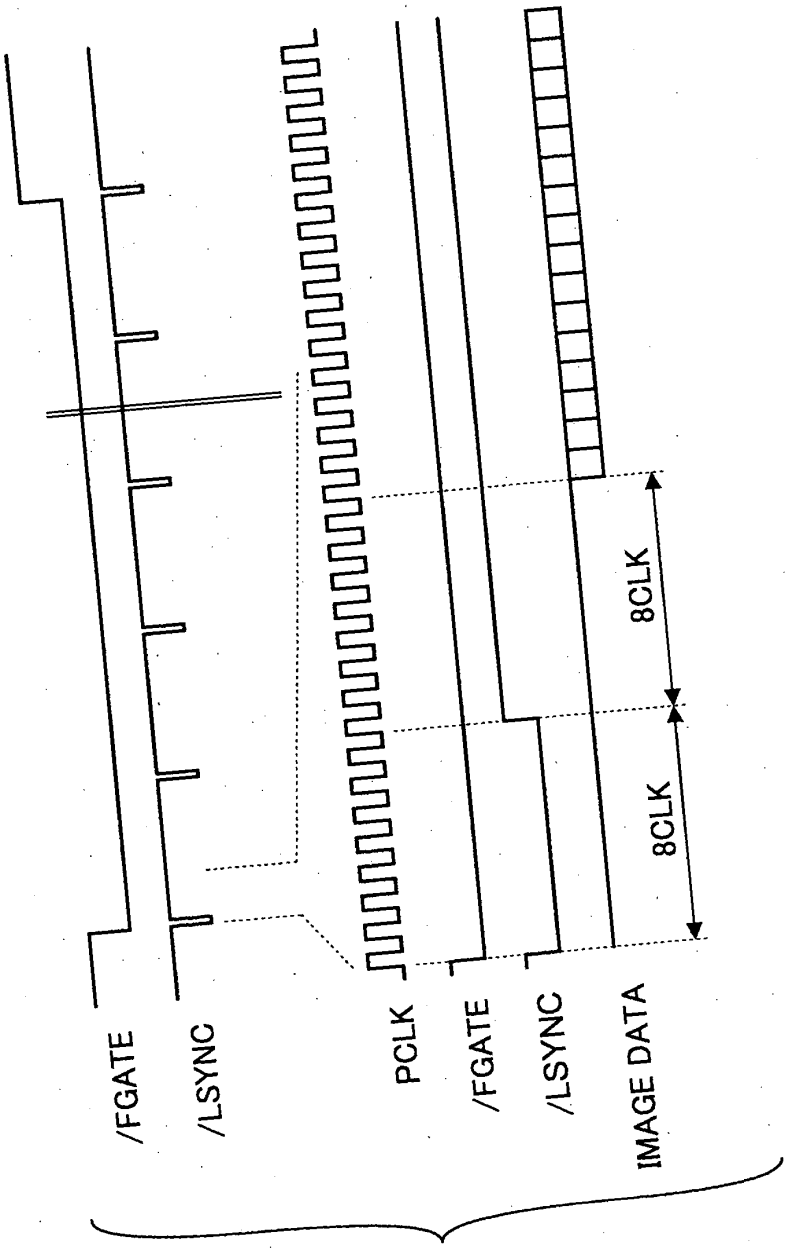



FIG.3

FIG.4

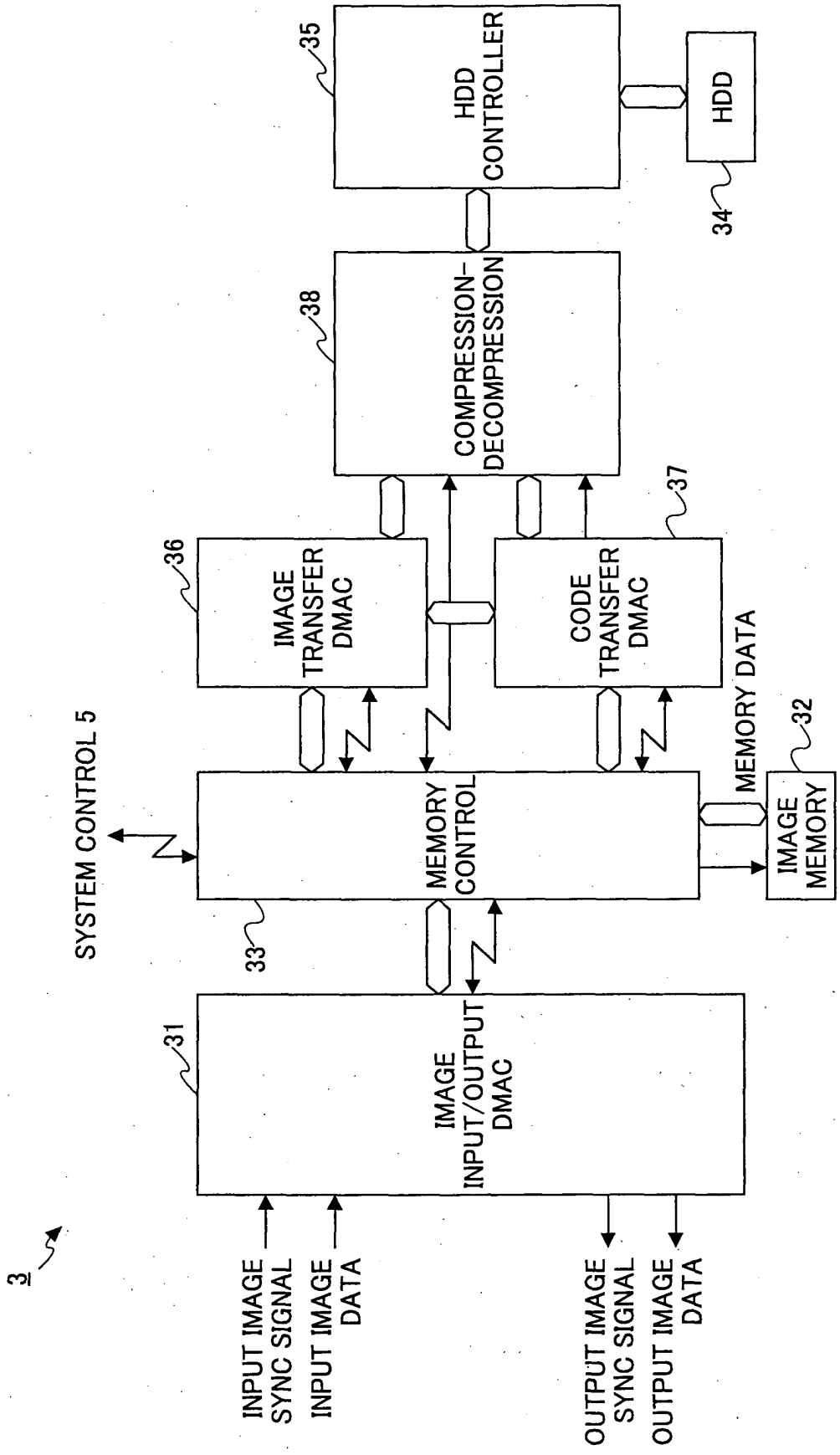

3
INPUT IMAGE SYNC SIGNAL
INPUT IMAGE DATA
OUTPUT IMAGE SYNC SIGNAL
OUTPUT IMAGE DATA
IMAGE INPUT/OUTPUT DMAC
31
MEMORY CONTROL
33
SYSTEM CONTROL 5
IMAGE MEMORY
32
MEMORY DATA
IMAGE TRANSFER DMAC
36
CODE TRANSFER DMAC
37
COMPRESSION-DECOMPRESSION
38
HDD CONTROLLER
35
HDD
34

FIG.5

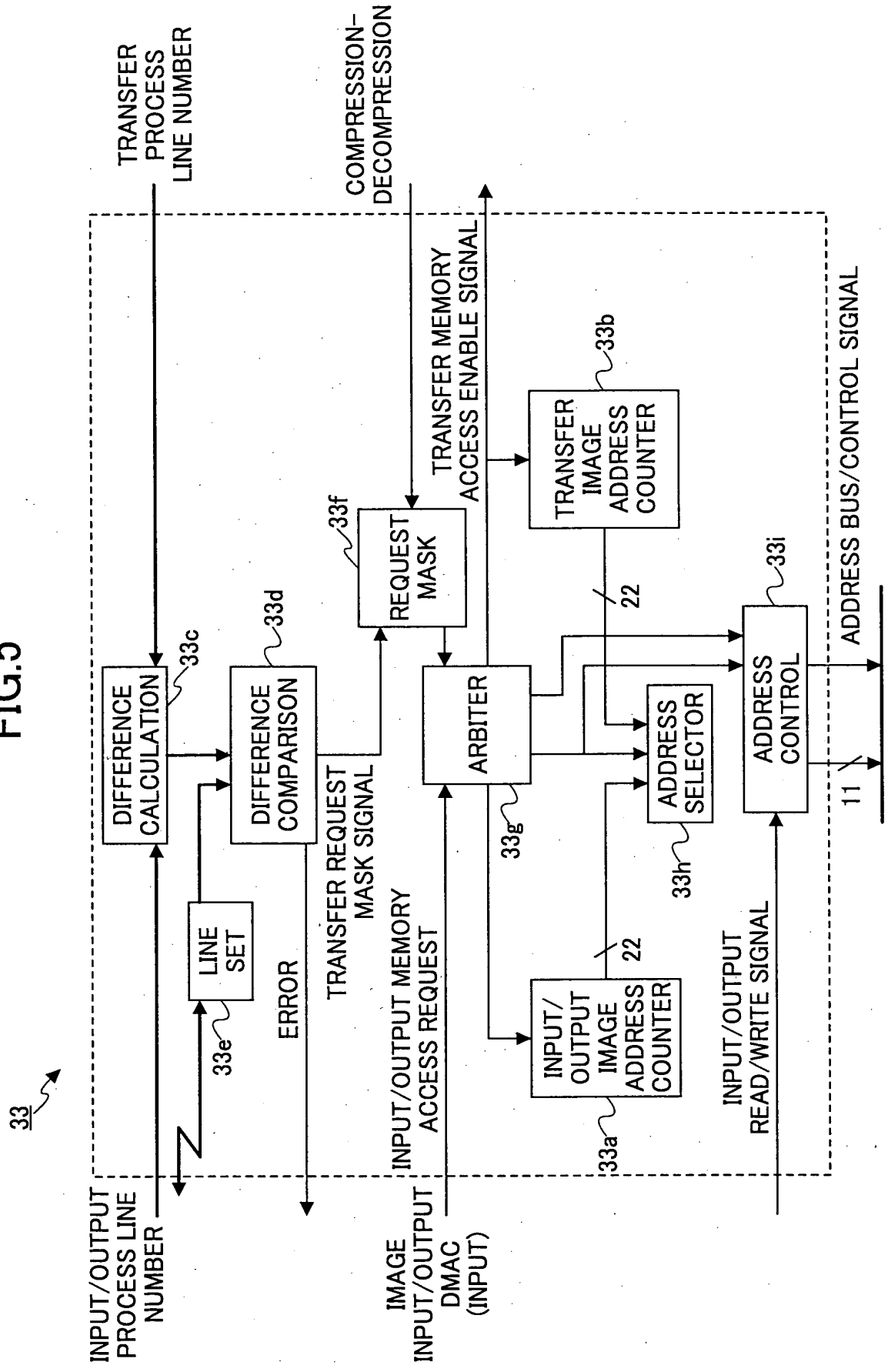

33
TRANSFER PROCESS LINE NUMBER
COMPRESSION-DECOMPRESSION
TRANSFER MEMORY ACCESS ENABLE SIGNAL
33b
TRANSFER IMAGE ADDRESS COUNTER
33f
REQUEST MASK
33c
DIFFERENCE CALCULATION
33d
DIFFERENCE COMPARISON
ARBITER
33g
ADDRESS SELECTOR
33h
ADDRESS CONTROL
33i
ADDRESS BUS/CONTROL SIGNAL
11
22
LINE SET
33e
ERROR
TRANSFER REQUEST MASK SIGNAL
INPUT/OUTPUT MEMORY ACCESS REQUEST
INPUT/OUTPUT READ/WRITE SIGNAL
INPUT/ OUTPUT IMAGE ADDRESS COUNTER
33a
22
INPUT/OUTPUT PROCESS LINE NUMBER
IMAGE INPUT/OUTPUT DMAC (INPUT)

FIG.6

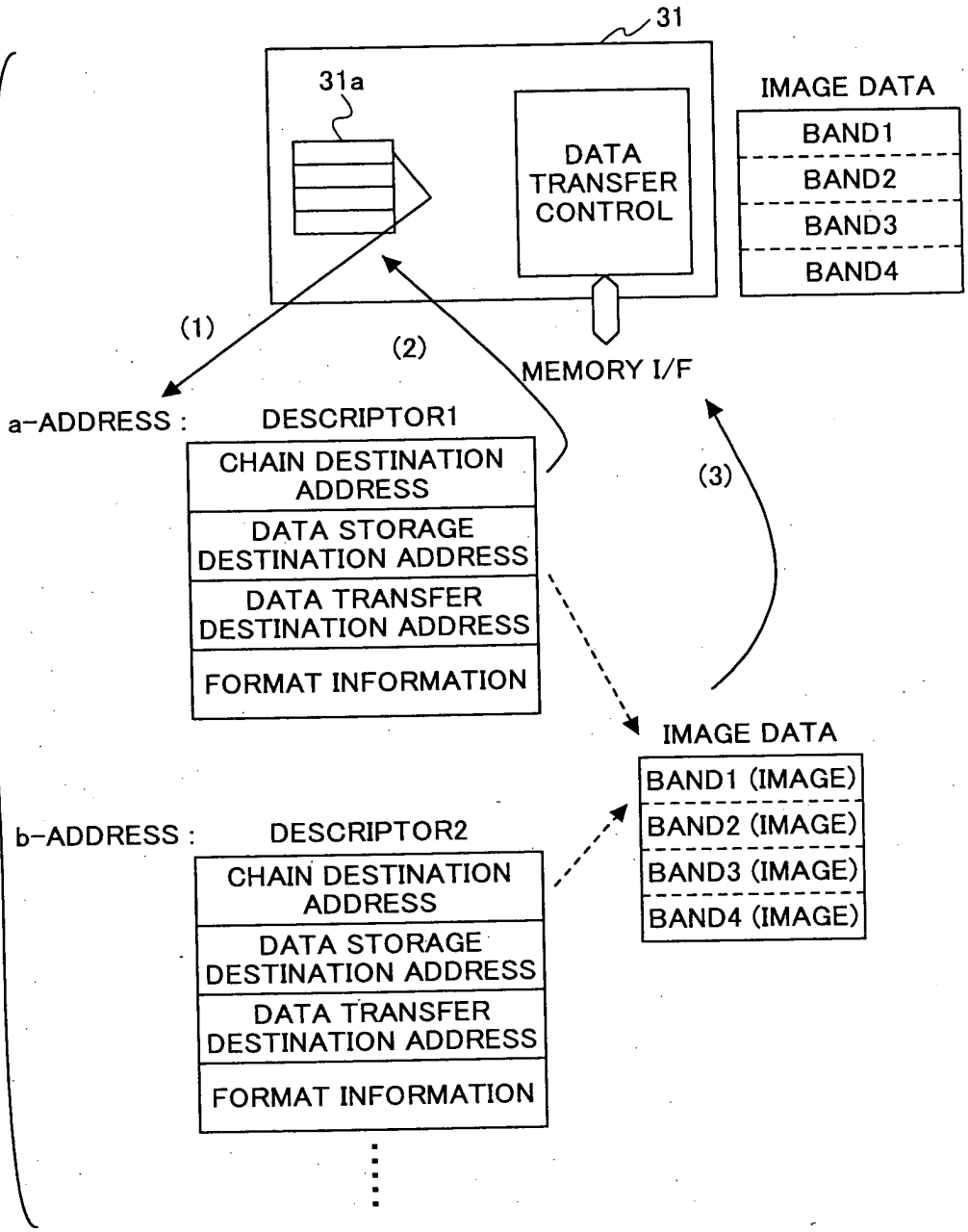

31
31a
DATA TRANSFER CONTROL
IMAGE DATA
BAND1
BAND2
BAND3
BAND4
(1)
(2)
MEMORY I/F
a-ADDRESS :
DESCRIPTOR1
CHAIN DESTINATION ADDRESS
DATA STORAGE DESTINATION ADDRESS
DATA TRANSFER DESTINATION ADDRESS
FORMAT INFORMATION
(3)
IMAGE DATA
BAND1 (IMAGE)
BAND2 (IMAGE)
BAND3 (IMAGE)
BAND4 (IMAGE)
b-ADDRESS :
DESCRIPTOR2
CHAIN DESTINATION ADDRESS
DATA STORAGE DESTINATION ADDRESS
DATA TRANSFER DESTINATION ADDRESS
FORMAT INFORMATION

FIG.7

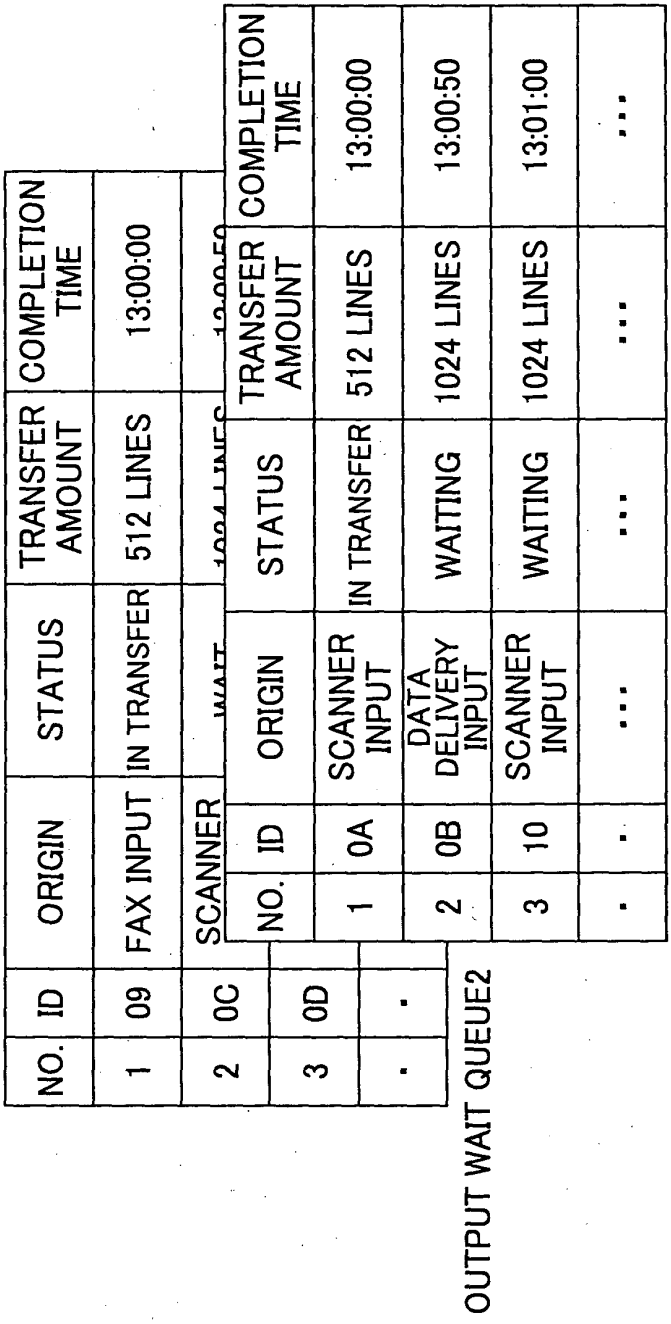

NO.
ID
ORIGIN
STATUS
TRANSFER AMOUNT
COMPLETION TIME
1
09
FAX INPUT
IN TRANSFER
512 LINES
13:00:00
2
0C
SCANNER
WAIT
1024 LINES
13:00:50
3
0D
.
.
.
OUTPUT WAIT QUEUE2
NO.
ID
ORIGIN
STATUS
TRANSFER AMOUNT
COMPLETION TIME
1
0A
SCANNER INPUT
IN TRANSFER
512 LINES
13:00:00
2
0B
DATA DELIVERY INPUT
WAITING
1024 LINES
13:00:50
3
10
SCANNER INPUT
WAITING
1024 LINES
13:01:00
.
.
.
.
.
.
.
.
.
INPUT WAIT QUEUE1

FIG.8

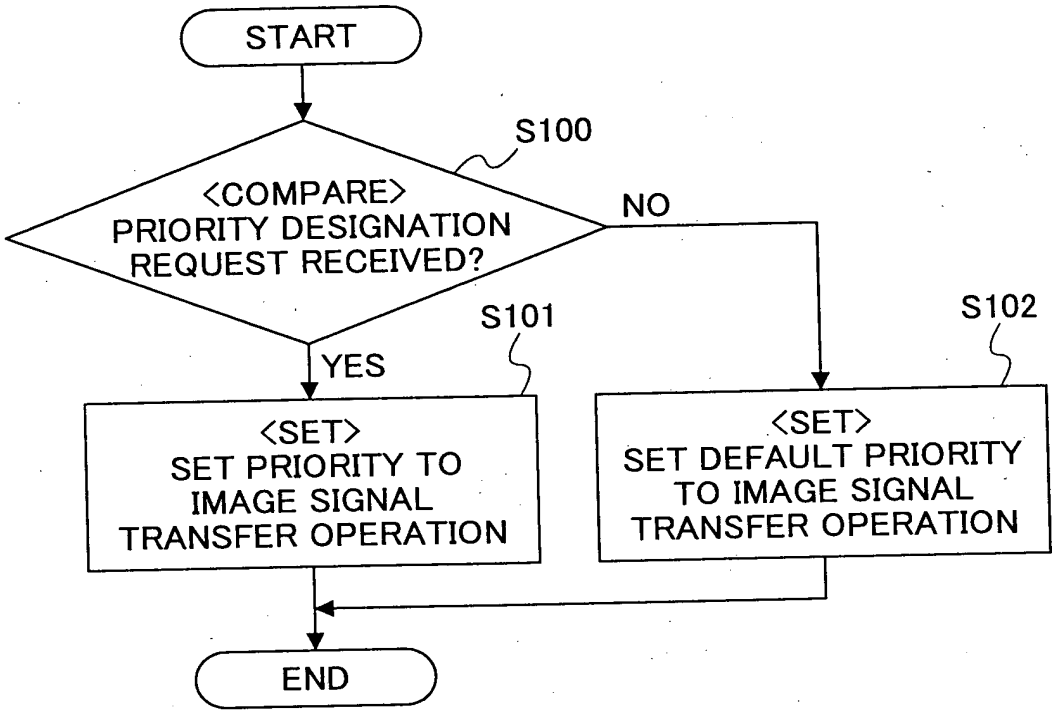

START
S100
<COMPARE>
PRIORITY DESIGNATION
REQUEST RECEIVED?
NO
YES
S101
S102
<SET>
SET PRIORITY TO
IMAGE SIGNAL
TRANSFER OPERATION
<SET>
SET DEFAULT PRIORITY
TO IMAGE SIGNAL
TRANSFER OPERATION
END

FIG.9

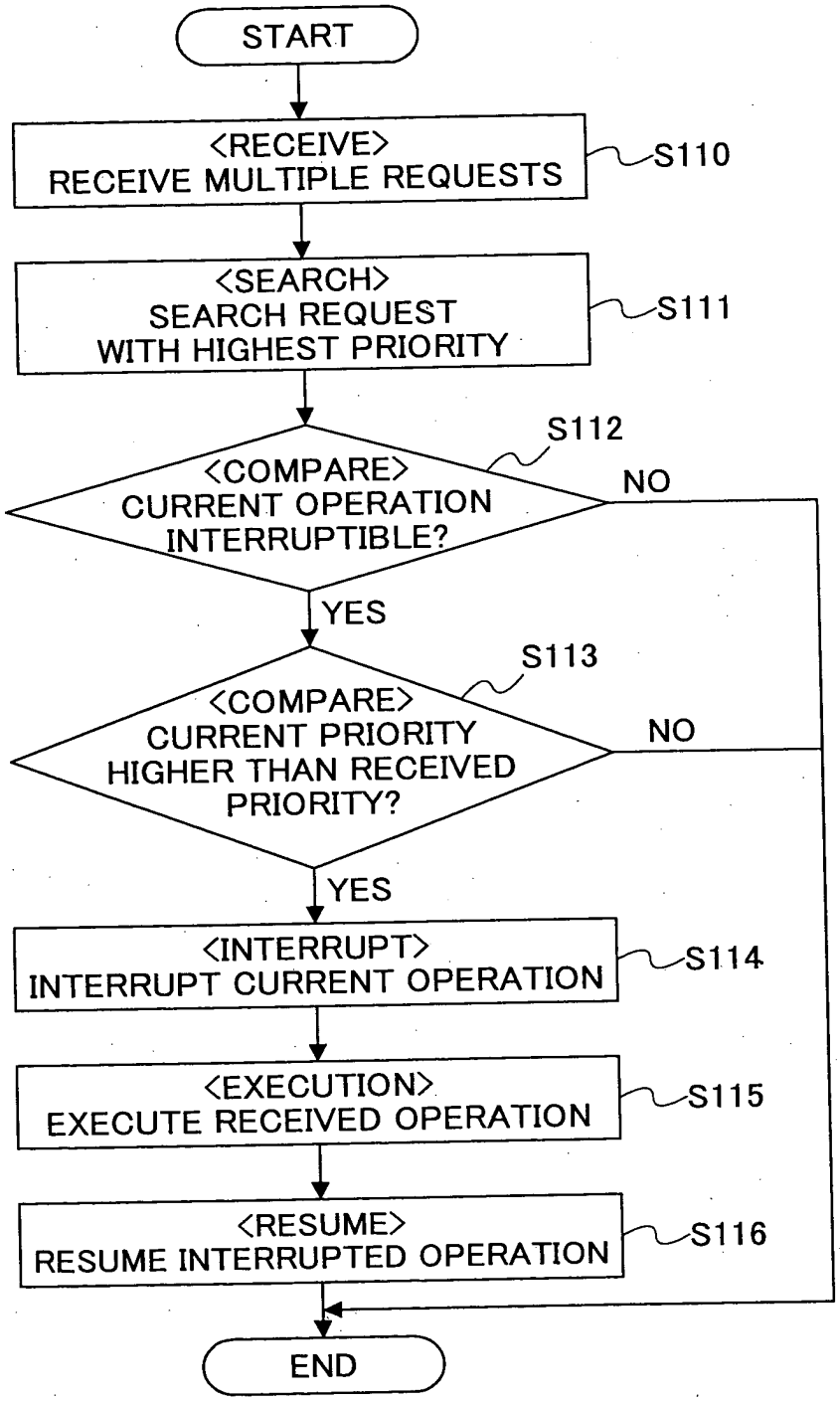

START
<RECEIVE>
RECEIVE MULTIPLE REQUESTS
S110
<SEARCH>
SEARCH REQUEST
WITH HIGHEST PRIORITY
S111
S112
<COMPARE>
CURRENT OPERATION
INTERRUPTIBLE?
NO
YES
S113
<COMPARE>
CURRENT PRIORITY
HIGHER THAN RECEIVED
PRIORITY?
NO
YES
<INTERRUPT>
INTERRUPT CURRENT OPERATION
S114
<EXECUTION>
EXECUTE RECEIVED OPERATION
S115
<RESUME>
RESUME INTERRUPTED OPERATION
S116
END

FIG.10

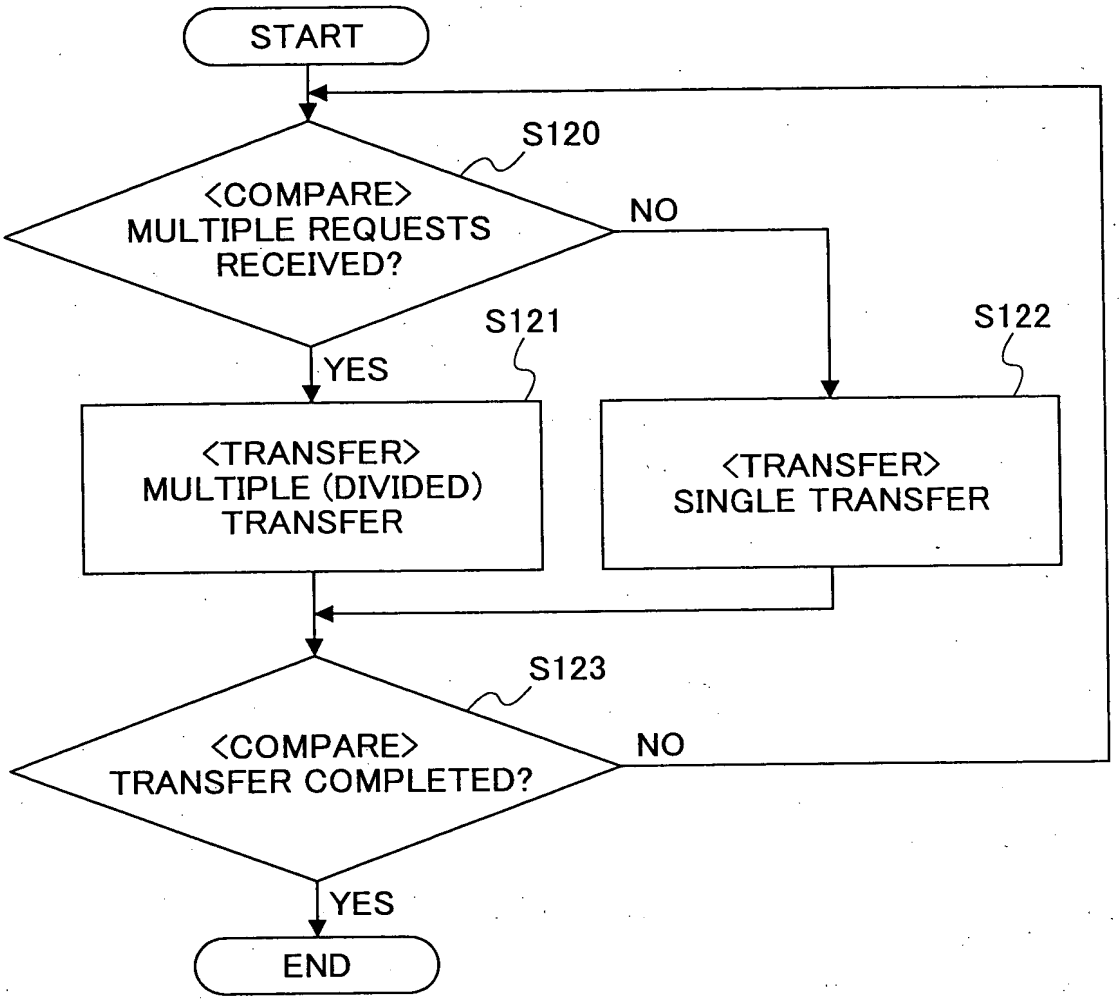

START
S120
<COMPARE>
MULTIPLE REQUESTS
RECEIVED?
NO
YES
S121
S122
<TRANSFER>
MULTIPLE (DIVIDED)
TRANSFER
<TRANSFER>
SINGLE TRANSFER
S123
<COMPARE>
TRANSFER COMPLETED?
NO
YES
END

FIG.11

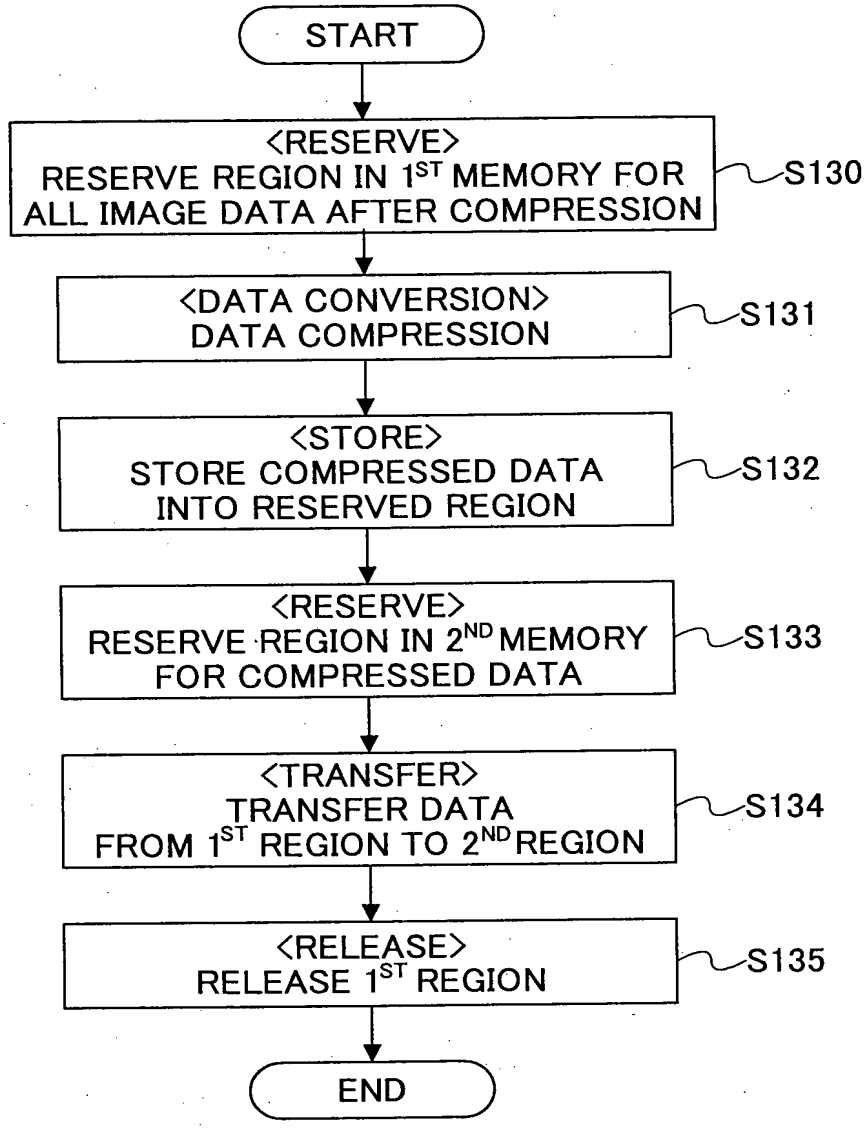

START
<RESERVE>
RESERVE REGION IN 1ST MEMORY FOR ALL IMAGE DATA AFTER COMPRESSION
S130
<DATA CONVERSION>
DATA COMPRESSION
S131
<STORE>
STORE COMPRESSED DATA INTO RESERVED REGION
S132
<RESERVE>
RESERVE REGION IN 2ND MEMORY FOR COMPRESSED DATA
S133
<TRANSFER>
TRANSFER DATA FROM 1ST REGION TO 2ND REGION
S134
<RELEASE>
RELEASE 1ST REGION
S135
END

FIG.12

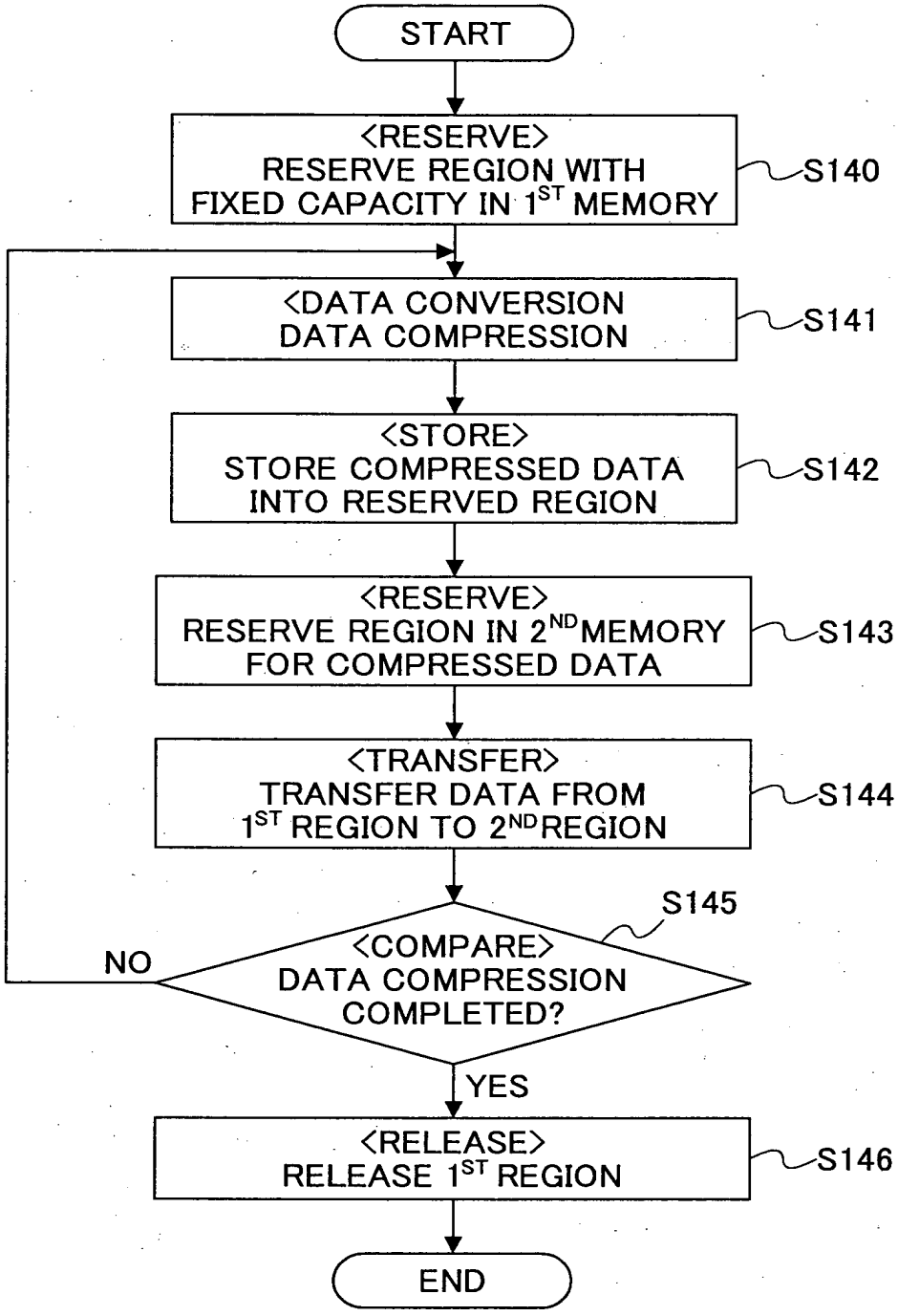

START
<RESERVE>
RESERVE REGION WITH
FIXED CAPACITY IN 1ST MEMORY
S140
<DATA CONVERSION
DATA COMPRESSION
S141
<STORE>
STORE COMPRESSED DATA
INTO RESERVED REGION
S142
<RESERVE>
RESERVE REGION IN 2ND MEMORY
FOR COMPRESSED DATA
S143
<TRANSFER>
TRANSFER DATA FROM
1ST REGION TO 2ND REGION
S144
S145
<COMPARE>
DATA COMPRESSION
COMPLETED?
NO
YES
<RELEASE>
RELEASE 1ST REGION
S146
END

FIG.13

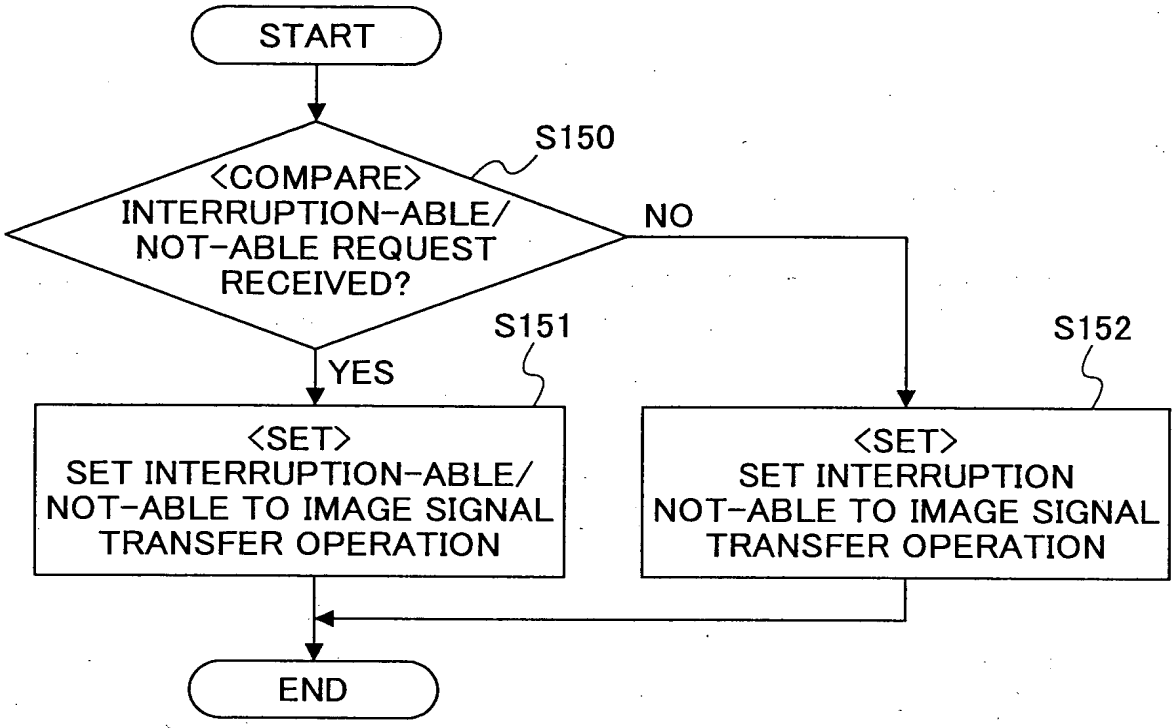
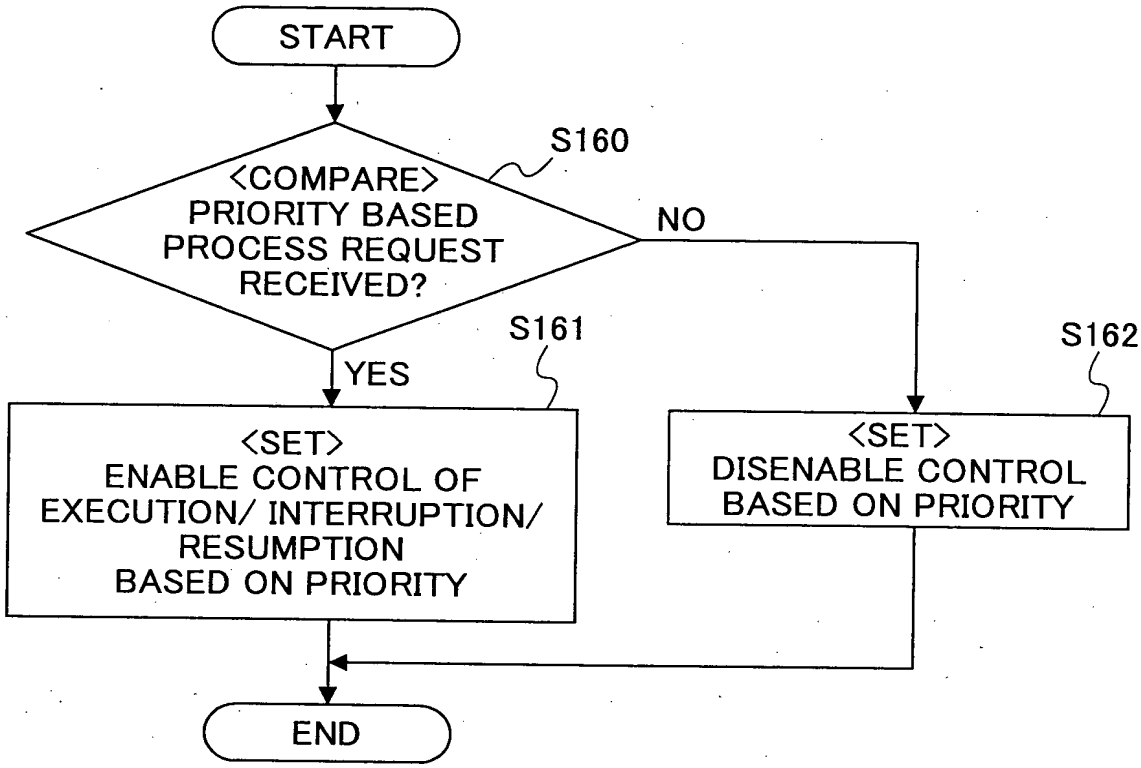

START
S150
<COMPARE>
INTERRUPTION-ABLE/
NOT-ABLE REQUEST
RECEIVED?
NO
YES
S151
S152
<SET>
SET INTERRUPTION-ABLE/
NOT-ABLE TO IMAGE SIGNAL
TRANSFER OPERATION
<SET>
SET INTERRUPTION
NOT-ABLE TO IMAGE SIGNAL
TRANSFER OPERATION
END

FIG.14


START
S160
<COMPARE>
PRIORITY BASED
PROCESS REQUEST
RECEIVED?
NO
YES
S161
S162
<SET>
ENABLE CONTROL OF
EXECUTION/ INTERRUPTION/
RESUMPTION
BASED ON PRIORITY
<SET>
DISENABLE CONTROL
BASED ON PRIORITY
END